



AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 10/824,526

Attorney Docket No.: Q80776

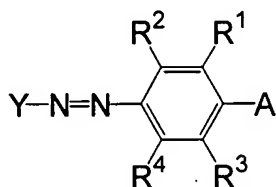
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

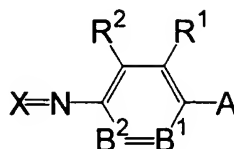
LISTING OF CLAIMS:

1. (currently amended): An ink jet recording method for recording on an ink jet recording medium comprising a support and a colorant receiving layer provided on the support and having a porous structure containing at least organic polymer fine particles, using the method comprising utilizing an ink composition comprising a colored fine particle dispersion containing at least one kind of hydrophobic dye, at least one kind of hydrophobic polymer and at least one kind of organic solvent having a high boiling point, wherein a void volume per unit thickness (A/B) of the colorant receiving layer calculated by dividing a void volume A ($\times 10^{-5}$ ml/cm²) of the colorant receiving layer at a void diameter equal to a particle size of the polymer fine particles obtained from a pore distribution curve by a nitrogen gas adsorption method, by a dry layer thickness B (μ m) of the colorant receiving layer is $2.0 (\times 10^{-5}$ ml/cm²/ μ m) or more.
2. (currently amended): An ink jet recording method according to claim 1, wherein the hydrophobic dye contains at least one kind of compound selected from the group consisting of compounds represented by the following general formula (I), compounds represented by the following general formula (II), compounds represented by the following general formula (Y-I), compounds represented by the following general formula (M-I) and compounds represented by the following general formula (C-I):

General formula (I)

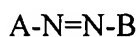


General formula (II)



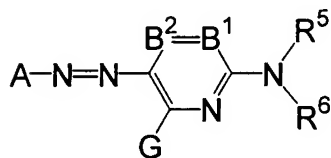
wherein, in General formula (I) and General formula (II), R^1 , R^2 , R^3 and R^4 each independently represent a hydrogen atom, a halogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group, a hydroxy group, a nitro group, an amino group, an alkylamino group, an alkoxy group, an aryloxy group, an amide group, an arylamino group, a ureide group, a sulfamoylamino group, an alkylthio group, an arylthio group, an alkoxy carbonylamino group, a sulfoneamide group, a carbamoyl group, a sulfamoyl group, a sulfonyl group, an alkoxy carbonyl group, a heterocyclic oxy group, an azo group, an acyloxy group, a carbamoyloxy group, a silyloxy group, an aryloxy carbonyl group, an aryloxy carbonylamino group, an imide group, a heterocyclic thio group, a sulfinyl group, a phosphoryl group, an acyl group, a carboxyl group, or a sulfo group; A represents $-NR^5R^6$ or a hydroxyl group; R^5 and R^6 each independently represent a hydrogen atom, an aliphatic group, an aromatic group or a heterocyclic group; R^5 and R^6 may mutually bond to form a ring; B^1 represents $=C(R^3)-$ or $=N-$; B^2 represents $-C(R^4)=$ or $-N=$; and R^1 and R^5 , R^3 and R^6 may mutually bond to form an aromatic ring or a heterocyclic ring, and/or R^1 and R^2 may mutually bond to form an aromatic ring or a heterocyclic ring,

General formula (Y-I)



wherein, in General formula (Y-I), A and B each independently represent an optionally substituted heterocyclic group,

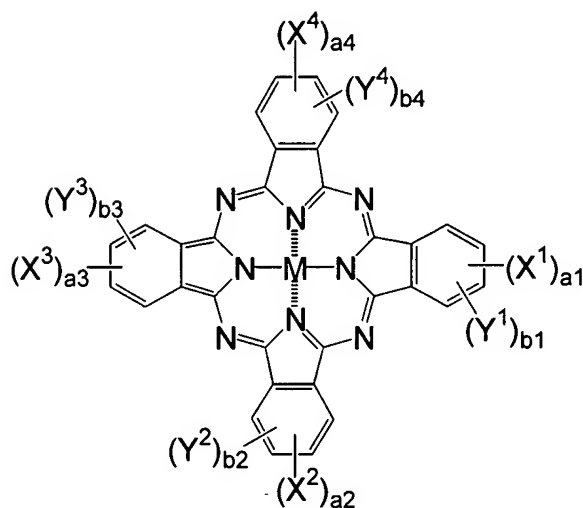
General formula (M-I)



~~Wherein~~ wherein, in General formula (M-I), A represents a moiety of a 5-membered heterocyclic diazo component (A-NH₂); B¹ represents =CR¹- and B² represents -CR²=, or alternatively, one of B¹ and B² represents a nitrogen atom and the other represents =CR¹- or -CR²=; R⁵ and R⁶ each independently represent a hydrogen atom, an aliphatic group, an aromatic group, a heterocyclic group, an acyl group, an alkoxycarbonyl group, an aryloxycarbonyl group, a carbamoyl group, an alkylsulfonyl group, an arylsulfonyl group or a sulfamoyl group, each of which may further have a substituent; G, R¹ and R² each independently represent a hydrogen atom, a halogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group, a carboxyl group, a carbamoyl group, an alkoxycarbonyl group, an aryloxycarbonyl group, an acyl group, a hydroxyl group, an alkoxy group, an aryloxy group, a silyloxy group, an acyloxy group, a carbamoyloxy group, a heterocyclic oxy group, an alkoxycarbonyloxy group, an aryloxycarbonyloxy group, an amino group substituted with an alkyl group, an aryl group or a heterocyclic group, an acylamino group, a ureide group, a sulfamoylamino group, an alkoxycarbonylamino group, an aryloxycarbonylamino group, an alkylarylsulfonylamino group, an arylsulfonylamino group, an aryloxycarbonylamino group, a nitro group, an alkylthio group,

an arylthio group, an alkylsulfonyl group, an arylsulfonyl group, an alkylsulfinyl group, an arylsulfinyl group, a sulfamoyl group, a sulfo group, or a heterocyclic thio group, each of which may further be substituted; and R^1 and R^5 , or R^5 and R^6 may bond to form a 5 or 6-membered ring,

General formula (C-I)



~~Wherein~~wherein, in General formula (C-I), X^1 , X^2 , X^3 and X^4 each independently represent $-SO-Z^1$, $-SO_2-Z^1$ or $-SO_2NR^{21}R^{22}$; Z^1 represents a substituted or unsubstituted alkyl group, a substituted or unsubstituted cycloalkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aralkyl group, a substituted or unsubstituted aryl group, or a substituted or unsubstituted heterocyclic group; R^{21} and R^{22} each independently represent a hydrogen atom, a substituted or unsubstituted alkyl group, a substituted or unsubstituted cycloalkyl group, a substituted or unsubstituted alkenyl group, a substituted or unsubstituted aralkyl group, a substituted or unsubstituted aryl group, or a substituted or unsubstituted

heterocyclic group; Y^1 , Y^2 , Y^3 and Y^4 each independently represent a hydrogen atom, a halogen atom, an alkyl group, a cycloalkyl group, an alkenyl group, an aralkyl group, an aryl group, a heterocyclic group, a cyano group, a hydroxyl group, a nitro group, an amino group, an alkylamino group, an alkoxy group, an aryloxy group, an amide group, an arylamino group, a ureide group, a sulfamoylamino group, an alkylthio group, an arylthio group, an alkoxycarbonylamino group, a sulfoneamide group, a carbamoyl group, a sulfamoyl group, a sulfonyl group, an alkoxycarbonyl group, a heterocyclic oxy group, an azo group, an acyloxy group, a carbamoyloxyl group, a silyloxy group, an aryloxycarbonyl group, an aryloxycarbonylamino group, an imide group, a heterocyclic thio group, a phosphoryl group, an acyl group, a carbonyl group, or a sulfo group, each of which may further have a substituent; a^1 to a^4 and b^1 to b^4 represent the numbers of substituents X^1 to X^4 and Y^1 to Y^4 , respectively; a^1 to a^4 each independently represent an integer of 0 to 4; b^1 to b^4 each independently represent an integer of 0 to 4; the sum of a^1 to a^4 is 2 or more; when any one of a^1 to a^4 and b^1 to b^4 represent an integer of 2 or more, a corresponding plurality of any one of X^1 to X^4 and Y^1 to Y^4 may be the same or different; a^1 and b^1 each independently represent an integer of 0 to 4 satisfying the relation of $a^1 + b^1 = 4$; a^2 and b^2 each independently represent an integer of 0 to 4 satisfying the relation of $a^2 + b^2 = 4$; a^3 and b^3 each independently represent an integer of 0 to 4 satisfying the relation of $a^3 + b^3 = 4$; a^4 and b^4 each independently represent an integer of 0 to 4 satisfying the relation of $a^4 + b^4 = 4$; and M represents a hydrogen atom, a metal element or its oxide, hydroxide, or halide.

3. (original): An ink jet recording method according to claim 1, wherein the organic solvent having a high boiling point is an organic solvent having a water solubility of 4 g or less.

4. (original): An ink jet recording method according to claim 1, wherein the void volume A of the colorant receiving layer at the same void diameter as the particle size of the polymer fine particles is $50 (\times 10^{-5} \text{ ml/cm}^2)$ or more.

5. (currently amended): An ink jet recording method according to claim 1, wherein a ratio $\{(Y/X) \times 100\%$ of a void diameter Y (nm) corresponding to a maximum peak of the void volume of the colorant receiving layer obtained from a pore distribution curve by a nitrogen gas adsorption method, to the particle size X (nm) of the polymer fine particles is 65% or more.

6. (original): An ink jet recording method according to claim 1, wherein the porous structure of the colorant receiving layer is formed of secondary particles of the polymer fine particles.

7. (original): An ink jet recording method according to claim 2, wherein the porous structure of the colorant receiving layer is formed of secondary particles of the polymer fine particles.

8. (original): An ink jet recording method according to claim 3, wherein the porous structure of the colorant receiving layer is formed of secondary particles of the polymer fine particles.

9. (original): An ink jet recording method according to claim 4, wherein the porous structure of the colorant receiving layer is formed of secondary particles of the polymer fine particles.

10. (original): An ink jet recording method according to claim 5, wherein the porous structure of the colorant receiving layer is formed of secondary particles of the polymer fine particles.

11. (original): An ink jet recording method according to claim 6, wherein a void diameter Y corresponding to a maximum peak of a void volume formed by the secondary particles of polymer fine particles of the colorant receiving layer obtained from a pore distribution curve by a nitrogen gas adsorption method is 33 nm or more.

12. (original): An ink jet recording method according to claim 7, wherein a void diameter Y corresponding to a maximum peak of a void volume formed by the secondary particles of polymer fine particles of the colorant receiving layer obtained from a pore distribution curve by a nitrogen gas adsorption method is 33 nm or more.

13. (original): An ink jet recording method according to claim 8, wherein a void diameter Y corresponding to a maximum peak of a void volume formed by the secondary particles of polymer fine particles of the colorant receiving layer obtained from a pore distribution curve by a nitrogen gas adsorption method is 33 nm or more.

14. (original): An ink jet recording method according to claim 9, wherein a void diameter Y corresponding to a maximum peak of a void volume formed by the secondary particles of polymer fine particles of the colorant receiving layer obtained from a pore distribution curve by a nitrogen gas adsorption method is 33 nm or more.

15. (original): An ink jet recording method according to claim 10, wherein a void diameter Y corresponding to a maximum peak of a void volume formed by the secondary

particles of polymer fine particles of the colorant receiving layer obtained from a pore distribution curve by a nitrogen gas adsorption method is 33 nm or more.

16. (new): An ink jet recording method according to claim 1, wherein the organic polymer fine particles are a (co)polymer of a vinyl monomer, an ester-based polymer, a urethane-based polymer, an amide-based polymer, an epoxy-based polymer or an amide-based polymer, or modified materials or copolymers thereof.